

(19)



JAPANESE PATENT OFFICE

PATENT ABSTRACTS OF JAPAN

(11) Publication number: 11040359 A

(43) Date of publication of application: 12.02.99

(51) Int. Cl

**H05B 33/14**  
**C09K 11/06**  
**H05B 33/22**

(21) Application number: 09195294

(22) Date of filing: 22.07.97

(71) Applicant: **TOYO INK MFG CO LTD**

(72) Inventor: **OKUTSU SATOSHI**  
**TAMANO MICHIKO**  
**ONIKUBO SHIYUNICHI**  
**ENOKIDA TOSHIO**

**(54) ORGANIC ELECTROLUMINESCENT ELEMENT**

**(57) Abstract:**

**PROBLEM TO BE SOLVED:** To attain an element with high luminous efficiency and excellent luminous longevity by containing an organic compound of specific composition in a luminescent layer, and containing an organic Ga complex in an electron injection layer.

**SOLUTION:** A luminescent layer contains a compound shown by a formula. A<sup>1</sup> to A<sup>4</sup> in the formula, which are independent respectively, are substituted or unsubstituted alkyl group, substituted or unsubstituted monocyclic group, substituted or unsubstituted condensed polycyclic group, or a condensed polycyclic group whose nitrogen atom is a bonding hand with A<sup>1</sup> and A<sup>2</sup>, A<sup>3</sup> and A<sup>4</sup> integrated. Q<sup>1</sup>, Q<sup>2</sup>, which are independent respectively, are hydrogen atom, cyano group, substituted or unsubstituted alkyl group, substituted or unsubstituted monocyclic group, or substituted or unsubstituted condensed polycyclic group. R<sup>1</sup> to R<sup>12</sup>, which are independent respectively, are hydrogen atom, halogen atom, cyano group, nitro group, substituted or unsubstituted alkyl group, substituted or unsubstituted alkoxy group, substituted or unsubstituted

aryloxy, or the like, and R<sup>1</sup> and R<sup>12</sup> may be anew form d into a ring by bonding adjacent groups to each other.

COPYRIGHT: (C)1999,JPO

